

3130 SPATIAL CALIBRATION

A. SCOPE

The Data Collection software uses images collected during the spatial calibration to establish a relationship between the signal emitted by each capillary and the position where that signal falls and is detected by the CCD camera. A spatial calibration must be run with the installation of a new capillary array, or after temporarily removing the capillary array from the detection block.

B. QUALITY CONTROL

- B.1 Protective gloves, a lab coat, and eye protection (e.g. safety glasses or face shield) must be worn when performing this procedure.
- B.2 Do not clean any components or accessories of the 3130 with bleach or ethanol. Clean with deionized water.
- B.3 See DOC ID [1835](#) to determine reagent expiration dates.

C. SAFETY

- C.1 All appropriate SDS sheets must be read prior to performing this procedure.
- C.2 Protective gloves, a lab coat, and eye protection (e.g. safety glasses or face shield) must be worn when performing this procedure.
- C.3 Distinguish all waste as general, biohazard, or sharps and discard appropriately.

D. REAGENTS, STANDARDS AND CONTROLS

- D.1 3130 Performance Optimized Polymer (POP-4 polymer)
- D.2 AB 3130 Genetic Analyzer 10X Buffer w/EDTA. To make a 1X working buffer:

Add 25 mL of Buffer 10X to 225 mL of deionized water to make 250 mL of working buffer, or make 1000 mL of working buffer by adding 100 mL of Buffer 10X (4 bottles) to 900 mL deionized water.

- D.3 Deionized water

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E. EQUIPMENT & SUPPLIES

E.1 Equipment

- E.1.1 AB 3130 Genetic Analyzer (instrument, computer and appropriate software)
- E.1.2 AB 36 cm capillary array
- E.1.3 AB Prism Genetic Analyzer sample septa and plates

E.2 Supplies

- E.2.1 3130 Genetic Analyzer buffer vials/reservoirs/reservoir septa

F. PROCEDURES

- F.1 Open Spatial Run Scheduler under **ga3130/3130/Spatial Run Scheduler**.
- F.2 In the Spatial Protocol window select **3130 SpatialFill_1**. If the capillaries contain fresh polymer select **SpatialNoFill_1**.
- F.3 Click **Start**.
- F.4 The run takes less than 6 minutes to complete. Review the results using the criteria listed in the Interpretation Guidelines section of this document.
- F.5 If the calibration is acceptable select **Accept**.
- F.6 If the calibration failed click **Reject** and refer to the troubleshooting section of the Applied Biosystems 3130/3130xl Genetic Analyzers Maintenance, Troubleshooting and Reference Guide.

G. INTERPRETATION GUIDELINES

Peak Attribute	Criteria
Height	Similar heights for all peaks.
Shape	Single sharp peak for each capillary.
Spacing	Position values are 13-16 higher than the previous one for every capillary. Theoretical spacing between capillaries is 15.
Orange crosses	One orange cross marks the top of every peak. No misplaced crosses.

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H. REFERENCES

- H.1 Applied Biosystems 3130/3130xl Genetic Analyzers Using Data Collection Software v3.0, February 8, 2005.
- H.2 Applied Biosystems 3130/3130xl Genetic Analyzers Getting Started Guide, November 2004.
- H.3 Applied Biosystems 3130/3130xl Genetic Analyzers Maintenance, Troubleshooting, and Reference Guide, September 2006.

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